INSTALLATION & OPERATIONAL MANUAL

1ERD & ERC SERIES ELECTRIC FRYERS
With KleenScreen *PLUS*® Filtration Systems

1ER50D Shown - Solid State Knob Control
Secured Behind the Door
ENERGY STAR® RATED

MODELS:

1E50BD	ML-136730
1ER50D	ML-136496
1ER50C	ML-136498
1E85BD	ML-136740
1ER85D	ML-136497
1ER85C	ML-136499
1E50BDF	ML-136799
1ER50DF	ML-136797
1ER50CF	ML-136798
1E85BDF	ML-136802
1ER85DF	ML-136800
1ER85CF	ML-136801
2E50BDF	ML-136741
2ER50DF	ML-136596
2ER50CF	ML-136598
2E85BDF	ML-136742
2ER85DF	ML-136597
2ER85CF	ML-136599
3E50BDF	ML-136743
3ER50DF	ML-136606
3ER50CF	ML-136608
3E85BDF	ML-136744
3ER85DF	ML-136607
3ER85CF	ML-136609
4E50BDF	ML-136745
4ER50DF	ML-136614
4ER50CF	ML-136615
4E85BDF	ML-136746
4ER85DF	ML-136827
4ER85CF	ML-136828
2XE5BDF	ML-136747
2XE50DF	ML-136626
2XE50CF	ML-136629
2XE8BDF	ML-136748
2XE85DF	ML-136616
2XE85CF	ML-136617

For additional information on Vulcan-Hart or to locate an authorized parts and service provider in your area, visit out website at www.vulcanhart.com

VULCAN-HART
DIVISION OF ITW FOOD EQUIPMENT GROUP, LLC
WWW.VULCANHART.COM

3600 NORTH POINT BLVD.
BALTIMORE, MD 21222
F-32959 Rev B. (November 2008)

IMPORTANT FOR YOUR SAFETY

THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL ELECTRIC EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

TABLE OF CONTENTS

IMPORTANT FOR YOUR SAFETY……. 2
INTRODUCTION…… 4
GENERAL…… 4
ORDERING PARTS…… 4
FRYER CAPACITIES…… 4
UNPACKING…… 4
INSTALLATION……..…… 6
CODES AND STANDARDS…….. 6
ASSEMBLY ……..…… 6
ELECTRICAL CONNECTIONS…….. 7
LEVELING THE FRYER……..…… 8
OPERATION…… 8
OVER-TEMPERATURE SHUTDOWN……. 8
BEFORE FIRST USE……... 8
Cleaning……....8
FILLING TANK WITH SHORTENING…… 9
BASIC FRYING INSTRUCTIONS…….. 9
Fry Basket Guidelines……10
EXTENDED SHORTENING LIFE…… 10
SOLID STATE KNOB CONTROL FEATURES…….. 10
TURNING ON THE FRYER …… .. 10
QUICK START GUIDE SOLID STATE KNOB CONTROL ….. 11
QUICK START GUIDE SOLID STATE DIGITAL CONTROL ….. 12
QUICK START GUIDE COMPUTER CONTROL …… 13
TURNING OFF THE FRYER …….. 14
EXTENDED SHUTDOWN …….. 14
FILTERING THE OIL…… ..…… 14
DRAINING THE TANK……..…… 15
BOIL OUT PROCEDURE……... 15
CLEANING……. 16
Daily…… 16
ELECTRIC KLEENSCREEN *PLUS*® INSTALLATION & OPERATION… 17
FILTERING INSTRUCITONS FOR KLEENSCREEN *PLUS*® …. 18
GENERAL…….. 18
ASSEMBLY…… 18
INSTRUCTIONS TO REMOVE & REPLACE FILTER ENVELOPE 20
OPERATION …….. 21
FILTER PROCEDURE …… 21
FILTERING SOLID STATE KNOB CONTROLS GUIDE……22
FILTERING SOLID STATE DIGITAL CONTROLS GUIDE…….23
FILTERING SOLID COMPUTER CONTROLS GUIDE……. 24
FILTERING TIPS …… 25
REMOVING EXCESS DEBRIS FROM THE FILTER …….. 25
FLUSH AND DISCARD …….. 25
BOIL OUT PROCEDURE ……. 26
THERMAL OVERLOAD PROTECTION RESET BUTTON …….. 26
MAINTENANCE…….. 27
Service in the US and Canada……... 27
In Australia……. 27
TROUBLESHOOTING…….. 27
Troubleshooting Chart……. 27

INTRODUCTION

GENERAL

Vulcan Fryers are produced with quality workmanship and material. Proper installation, usage and maintenance will result in years of satisfactory performance.

Before installing the fryer, thoroughly read this manual and carefully follow all instruction.

This manual is applicable to model listed on the cover page. Procedures in this manual will apply to all models unless specified. Pictures and illustrations can be of any model unless the picture or illustration needs to be model specific.

ORDERING PARTS

Customers may order parts directly from their local authorized service center. If not known, call Vulcan Customer Service at 800-814-7028.

To speed up your order, provide the model number, serial number, electrical specifications, part needed, item part number (if known) and quantity needed.

UNPACKING

This fryer was carefully inspected before leaving the factory. Upon acceptance of the shipment, the transportation company assumes full responsibility for safe delivery.

Immediately after unpacking the fryer, check for possible shipping damage. If the fryer is damaged, save the packaging material and contact the carrier within 15 days of delivery.

Check that the following have been included:

- Crumb Rack(s)
- Tank Brush
- Adjustable (4) Legs. Fryer Batteries with the KleenScreen *PLUS*® Filtration System have legs installed from the factory.
- Drain Pipe Extension for freestanding fryers only.
- Twin Fry Baskets (2) per fry tank
- Cleanout Rod
- Fryer Batteries with the KleenScreen *PLUS®* Filtration System
  - Filter Pan
  - Suction Tube
  - Screen Assembly
  - Boil Out ByPass™ Extension
  - Complimentary Pack of Micro-Filtration Envelopes
  - Crumb Basket
  - 6’ high temperature discard hose

- Manual and Warranty
- Sample Boil Out Tablets

Do not use the door or its handle to lift the fryer.

MODEL - GMO	Kw per Fry Tank	Width Inch (cm) Total System	Shortening lbs. (kg) Each Fry Tank
1ER50BD	17	15.5" (39)	50 (23)
1ER50D	17	15.5" (39)	50 (23)
1ER85BD	24	21.0" (53)	85 (39)
1ER85D	24	21.0" (53)	85 (39)
1ER50C	17	15.5" (39)	50 (23)
1ER85C	24	21.0" (53)	85 (39)
1E50BDF	17	15.5" (39)	50 (23)
1ER50DF	17	15.5" (39)	50 (23)
1E85BDF	24	21.0" (53)	85 (39)
1ER85DF	24	21.0" (53)	85 (39)
1ER50CF	17	15.5" (39)	50 (23)
1ER85CF	24	21.0" (53)	85 (39)
2E50BDF	17	31.0" (79)	50 (23)
2ER50DF	17	31.0" (79)	50 (23)
2ER50CF	17	31.0" (79)	50 (23)
3E50BDF	17	46.5" (118)	50 (23)
3ER50DF	17	46.5" (118)	50 (23)
3ER50CF	17	46.5" (118)	50 (23)
4E50BDF	17	62.0" (158)	50 (23)
4ER50DF	17	62.0" (158)	50 (23)
4ER50CF	17	62.0" (158)	50 (23)
2E85BDF	24	42.0" (107)	85 (39)
2ER85DF	24	42.0" (107)	85 (39)
2ER85CF	24	42.0" (107)	85 (39)
3E85BDF	24	63.0" (160)	85 (39)
3ER85DF	24	63.0" (160)	85 (39)
3ER85CF	24	63.0" (160)	85 (39)
4E85BDF	24	84.0" (214)	85 (39)
4ER85DF	24	84.0" (214)	85 (39)
4ER85CF	24	84.0" (214)	85 (39)
2XE5BDF	17	31.0" (79)	50 (23)
2XE50DF	17	31.0" (79)	50 (23)
2XE50CF	17	31.0" (79)	50 (23)
2XE8BDF	24	42.0" (107)	85 (39)
2XE85DF	24	42.0" (107)	85 (39)
2XE85CF	24	42.0" (107)	85 (39)

Voltage ranges are: 208, 3 Phase - 50 – 60 Hz
240, 3 Phase - 50 – 60 Hz
480, 3 Phase - 50 – 60 Hz

Model ERBD, ERD and ERC Series Fryers can be freestanding or arranged in batteries of 2 to 4 fryers. The number preceding the model number of the fryer refers to the number of fryers in a battery.

INSTALLATION

Before installing the fryer, verify that the electrical requirements agree with the specifications on the fryer data plate, which is located on the inside of the door panel.

Record your fryer model, device, and serial numbers for future reference in the space provided below. This information can be found on the fryer data plate.

Fryer Model No: _____

Device: _____

Serial No: _____

CODES AND STANDARDS

The fryer must be installed in accordance with:

In the United States:

- State and local codes, or in the absence of local codes, with:
- National Electrical Code, ANSI/NFPA-70 (latest edition). Copies may be obtained from The National Fire Protection Association, Batterymarch Park, Quincy, MA. 02169-7471.

In Canada:

- Local codes
- CSA C22.1 Canadian Electric Code L4W 5N6.

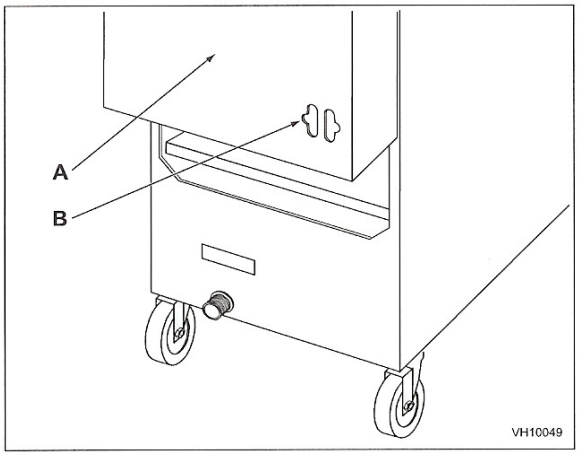
ASSEMBLY

The fryer must be restrained to prevent tipping and the splashing of hot liquid. The means of restraint may be the manner of installation, such as connection to a battery of appliances, installing the fryer in an alcove, or by separate means such as adequate ties.

Fryers with Casters: (Optional)

Separate instructions for installing casters are included with the casters:

- The restraining device should be attached to the cutout on the back panel. See illustration for location.



A Rear of Fryer
B Strain Relief Chain Connection (Chain supplied by others)

- Australia, use only the caster supplied by the manufacturer for the fryer device. The fryer must be installed using a hose assembly restraining device to limit the movement of the appliance in accordance with AS1869.
- The fryer must be installed with a connector (not supplied by Vulcan) complying with the above codes.
- The fryer must be installed with restraining means to guard against transmission of strain to the connector. See illustration.
- The fryer must be installed with the casters provided.
- If the restraint is ever to be disconnected, turn off electric supply to the fryer.

ELECTRICAL CONNECTION

⚠ WARNING Electrical and Grounding connections must comply with the National Electrical Code and/or other local codes.

⚠ WARNING Disconnect the electrical power supply to the machine and follow lockout / tagout procedures.

⚠ WARNING Appliances equipped with a 120V flexible electric supply cord are provided with a three-prong grounding plug. It is imperative that this plug be connected into a properly grounded three-prong receptacle. If the receptacle is not the proper grounding type, contact an electrician. Do not remove the grounding prong from this plug.

For 480 volt fryers a separate cord and NEMA 15-5P plug is required (not supplied with the fryer). Plug in the wire connection into an approved outlet.

Place fryer as near to its final position as possible. Connect 3 phase line to X, Y and Z on terminal block. To reach terminal block, remove electric cover plate from fryer.

For each 15½" (39 cm) and 21" (53 cm) section, a 3 phase supply line capable of handling the required KW at the fryer's rated voltage (208, 240, and 480) is needed. Refer to the fryer data plate for this electrical information.

LEVELING THE FRYER

Check the level of the fryer by placing a level on top of the fryer after electrical connections have been made.

Ensure that the fryer is level front-to-back and side-to-side in the final installed position.

If using casters, lock the wheels after unit is level.

OPERATION

⚠ WARNING Hot oil and parts can cause burns. Use care when operating, cleaning and servicing the fryer.

⚠ WARNING Spilling hot frying compound can cause severe burns. Do not move fryer without draining all frying compound from the tank.

OVER-TEMPERATURE SHUTDOWN

If the shortening becomes overheated, a high-temperature shutoff device will turn the heating elements off shutting down the fryer.

If the fryer shuts down due to overheating, do not turn fryer on until the shortening temperature is below 300°F (149°C).

If an overheating situation persists, contact your local Vulcan-Hart authorized service office.

BEFORE FIRST USE

Cleaning
New units are wiped down at the factory to remove any visible signs of dirt, oil, grease, etc. remaining from the manufacturing process.

Before any food preparation, thoroughly wash the protective oil from all surface parts and the tank interior with hot soapy water to remove any film residue and dust or debris.

NOTICE Do not use chlorine or sulfate/sulfide cleaners.

- Wash any accessories shipped with unit.
- Rinse fryer and accessories thoroughly and drain the fryer.
- Wipe tank completely dry with a soft, clean cloth.

FILLING TANK WITH SHORTENING

- Close the drain valve.
- Fill the fryer tank with shortening. Vulcan recommends using liquid shortening.
- Shortening level should be between the MIN and MAX lines in the fryer tank.
- Shortening will expand when heated. Do not fill the fryer tank past the MAX line.

- Press the melt switch to liquid or solid shortening.
- Add fresh shortening as needed to maintain oil level.

⚠ WARNING **Solid Shortening:** Do not set a complete block of solid shortening on top of an electric fryer's heating elements. Doing this may damage the elements and increase the potential for shortening flash fire. If solid shortening is to be used in an electric fryer, remove the baskets and crumb screen (s), and raise the elements from the tank. Pack the bottom of the tank completely with solid shortening, lower the elements and then pack the shortening completely around and over top of the elements. Lay crumb screen (s) in the tank on top of the packed shortening. Follow the melt instructions in this manual. Once all shortening has been melted and the fryer has met the set temperature, fill baskets and resume frying.

BASIC FRYING INSTRUCTION

- Set the desired temperature and allow shortening to heat up to that temperature.
- Fry items that are the same size to ensure equal doneness.
- Drain or wipe dry raw or wet foods to minimize splatter when lowering into hot shortening.
- Add fresh shortening as needed.

Fry Basket Guidelines

- Do not overfill baskets. (See fry basket capacity below) Carefully lower basket into oil.
- When frying doughnuts and fritters, turn product only once during frying.
- When cooking French fries or onion rings, shake the basket several times.
- Batter covered foods should be dropped carefully, one by one, into shortening or basket. If you use the basket, first dip the basket into the shortening to reduce batter-build up on basket surfaces.
- When frying is completed, remove basket or product. Hang basket on rear hanger.

Fry Basket Capacity:

ER50D: Recommended pounds per basket are 2.5 lbs. (1.1 kg).
ER85D: Recommended pounds per basket are 3.5 lbs. (1.6 kg).

EXTENDING SHORTENING LIFE

Shortening life can be extended by the following guidelines:

- Do not salt foods over the fryer.
- Use good-quality shortening.
- Filter shortening daily (at a minimum).
- Replace shortening if it becomes poorly flavored.
- Keep equipment and surrounding clean.
- Set thermostat correctly.
- Remove excess moisture and particles from food products before placing on fryer.

TURNING ON THE FRYER

- Open the door to the fryer. Turn the power switch to the on position.
- Set temperature by turning the knob to the desired temperatures. The burners will light automatically.
- The burners will cycle on and off, maintaining the set temperature.

VULCAN FRYERS

SOLID STATE KNOB CONTROLS GUIDE

VULCAN ONE POWERFUL PACKAGE™

START UP in 4 Easy Steps

STEPS 1-4 TURNING ON THE FRYER

1.

Fill fry tank with oil. Press the power switch **ON**.

2.

Set temperature knob to the desired set temperature.

3.

Move the **MELT** switch to the correct shortening being used: Solid or Liquid.

4.

Press the **START** switch and fryer will begin to heat. The burners or heating elements will cycle on and off through the melt cycle. When temperature reaches 135° F the burner or heating element will stay on until set temperature is reached.

TURNING OFF THE FRYER

1.

Open the door to the fryer. Press the power switch to the **OFF** position

SOLID STATE KNOB CONTROLS GUIDE

⚠WARNING

- HOT FRYING COMPOUND AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING, OR SERVICING THE FRYER. USE CARE WHEN FILTERING. DO NOT LEAVE UNATTENDED.
- SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE THE FRYER WITHOUT FIRST DRAINING ALL FRYING COMPOUND FROM TANK.

NOTICE IF POWER IS MISTAKENLY TURNED OFF DURING THE FILTERING OPERATION, THE CORRECTIVE ACTION IS AS FOLLOWS:

1. CLOSE DRAIN VALVE
2. TURN POWER SWITCH ON
3. **IMMEDIATELY** OPEN DRAIN VALVE
4. CONTINUE FILTERING OPERATION PER STEPS 1-7 USING FILTERING GUIDE

NOTICE WHEN USING SOLID SHORTENING, THE SHORTENING MUST BE LIQUIFIED BEFORE FILTERING.

F-32948 (July 2008)

www.VulcanHart.com • Fryer Technical Support: 1-800-814-2028

Programming in 7 Easy Steps (for revisions V3.00 or higher)

STEP 1

Fill fry tank with oil and then turn power on

Display will scroll through VULCAN ➤ FRYERS ➤ Rev. No. ➤ MELT CYCLE LIQUID

STEP 2-7 PROGRAMMING MODES

To make changes to your program:

1. If display is locked it must be unlocked using the unlock code.

To UNLOCK this control you must quickly press the LEFT LEFT RIGHT RIGHT buttons while the word 'LOCKED' is displayed

UNLOCK CODE

2. After unlocking go to steps 2 – 7

2

Press (V) program button to enter the program mode: LEFT TIMER displays

Press ▲ to increase time.

Press ▼ to decrease time.

Press (V) to go to Step 3.

3

RIGHT TIMER displays

Press ▲ to increase time.

Press ▼ to decrease time.

Press (V) to go to Step 4.

4

TEMPERATURE SETTING displays

Press ▲ to increase temp.

Press ▼ to decrease temp.

Press (V) to go to Step 5.

5

MELT CYCLE displays

Press ▲ to change to "S" Solid.

Press ▼ to change to NO MELT.

Press ▼ to change to "L" Liquid.

Press (V) to go to Step 6.

6

UNLOCK displays

Press ▲ to LOCK.

Press ▼ to UNLOCK.

Press (V) to go to Step 7.

Note: VULCAN recommends keeping the controls LOCKED after programming to prevent altering

7

Press (V) button and HOLD FOR 3-5 seconds to save and exit program mode.

Note: Programming modes can be initiated while the fryer is ON by pressing the (V) button. If 'LOCKED' appears refer to 'UNLOCK' code.

OPTIONAL DISPLAY MODES

After the program mode is completed, one of the following screens will be displayed.

TEMPERATURE SETTING RESULTS

Results of programming for oil temperature is at set temperature

Display shows ACTUAL TEMPERATURE

MELT CYCLE RESULTS

Results of programming MELT L

Display says MELT L

Results of programming MELT S

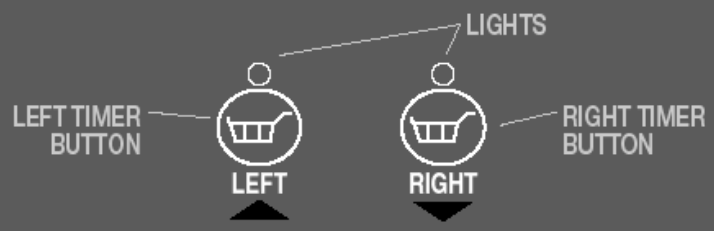
Display says MELT S

Results of programming NO MELT

Display says HEATING if oil temperature is below 135 º F

TO STOP A TIMER ONCE THE COUNTDOWN SEQUENCE HAS STARTED:

Press and hold the timer button until timer is reset and flashing light goes OFF.



Programming the Computer Control

VULCAN FRYERS
COMPUTER CONTROLS GUIDE

VULCAN ONE POWERFUL PACKAGE™

PROGRAMMING in 7 Easy Steps (for revisions V3.00 or higher)

STEP 1
Fill fry tank with oil and then turn power on.

Display will scroll through VULCAN FRYERS ➤ Rev. No. ➤ MELT CYCLE LIQUID

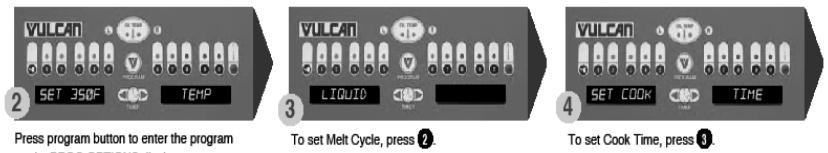
STEP 2-7
PROGRAMMING MODES

1. If display is locked it must be unlocked using the unlock code.

To UNLOCK this control, press buttons 1 2 3 4 while the word 'LOCKED' is displayed

UNLOCK CODE

2. After unlocking go to steps 2 - 7



Press program button to enter the program mode. PROG OPTIONS displays.

To set Temperature, press 1. Type desired temperature.

Press ▽ to go to step 3.

To set Melt Cycle, press 2.

Press ◁ to toggle between LIQUID, SOLID, and NO MELT.

Press ▽ to go to step 4.

To set Cook Time, press 3.

Press 1 to set time for 1st cook cycle. Type in cook time. Press ▽.

Press 2 to set 2nd cook cycle. Press ▽. Repeat setting cook times for 3 - 0. Press ▽ TWICE to go to step 5.

To Lock and Unlock the control, press 4.

Press ◁ to toggle between LOCK and UNLOCK.

Press ▽ to go to step 6.

To set Beeper Volume, press 5.

Press ◁ to toggle between VOLUME 1, 2 and 3 (Low to High).

Press ▽ to go to step 7.

To set Language, press 6.

Press ◁ to toggle between ENGLISH, SPANISH, and FRENCH.

Press ▽ when done.

Press ▽ to exit programming mode. PROG DONE displays.

Note: VULCAN recommends keeping the controls LOCKED after programming to prevent altering.

STEP 8-12
ADVANCED PROGRAMMING MODES (OPTIONAL-NOT REQUIRED)

To enter Advanced Mode, press ▽, then the Left and Right arrow keys one at a time. ADV PROG OPTIONS Displays.

Go to step 9.

To set SHAKE TIME for each cook cycle, press 1.

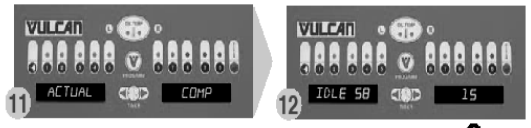
Type desired time, and press ▽ when done. Press 2 through 0 to set shake time for remaining cook cycles.

When done, press ▽ to go to step 10.

To set HOLD TIME for each cook cycle, press 2.

Press timer 1 and type in the desired hold time. Press ▽ when done.

Press 2 through 0 to set hold time for remaining cook cycles.



To set COMPENSATED or ACTUAL TIME for each cook cycle, press 3.

Press timer 1 and then ◁ to toggle between Compensated and Actual cook time.

Press 2 through 0 to set hold time for remaining cook cycles.

To set IDLE SETBACK time, press 4.

Enter a 2 digit number from 10-99 minutes, or 00 to disable Idle Setback mode.

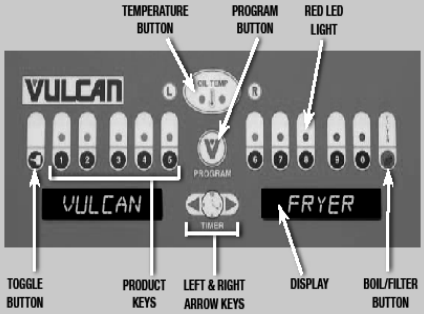
Press ▽ when done. ADV PROG OPTIONS displays.

Press ▽ to exit Advance Programming Modes. PROG DONE displays.

OPERATION TIPS:

- To activate a cook cycle timer press a button 1 - 0. First push the desired cook timer button and then press Ⓛ or Ⓡ corresponding to which basket is being used. Example: 2 Ⓛ, 5 Ⓡ. NOTE: You can use the same button for both Ⓛ and Ⓡ baskets. For example, 4 Ⓛ, 4 Ⓡ.
- To cancel a cook timer, press and release the Ⓛ or Ⓡ button and the corresponding number button 1 - 0. The timer will stop and reset.
- With single basket lift fryers only press timer buttons 1 - 0 to activate the basket lift. There is no need to use the Ⓛ and Ⓡ buttons. To cancel the timer, press the same button again and the basket will raise up.
- Product keys blink when activated and are solid when programming.
- To silence alarm when timer is complete, press lit product key.

DISPLAY PANEL CONTROL GUIDE



TO REVIEW SETTINGS:

To REVIEW SETTINGS, press the OIL TEMP button.

Current temperature displays.

Press OIL TEMP a second time, set temperature displays.

Hit ▶ RIGHT arrow, followed by desired product key 1 - 0.

Display will scroll through settings for Time, Shake, Hold, and Cook Cycle.

F-32923 (July 2007)

www.VulcanHart.com • Fryer Technical Support: 1-800-814-2028

TURNING OFF THE FRYER

- Open the door to the fryer. Press the power switch to the OFF position.

EXTENDED SHUTDOWN

1. Open the door to the fryer. Press the power switch to the OFF position.
2. Thoroughly drain the fryer. Refer to DRAINING THE FRYER.
3. Clean the fryer according to CLEANING.
4. Turn off the main gas shutoff valve.

FILTERING THE OIL

⚠ WARNING Hot oil and hot parts can cause burns. Use care when operating, cleaning, and servicing the fryer.

Filter shortening at least once a day.

1. A cold fryer will not drain properly. Always filter shortening between 250°F and 350°F. The shortening in the cold zone area will remain hard if not heated properly. If necessary, use the clean-out rod to carefully stir the hard shortening to an area above the cold zone where it will melt.
2. Open the door to the fryer. The power must remain ON for the fryer to filter correctly.
3. Insert the drain extension into the drain valve. Tighten only hand tight.
4. Direct the drain extension into Vulcan's 85MF mobile filter or equivalent mobile filtering device.
5. Use the provided crumb scoop to remove the heavy debris lying on the bottom of the tank.
6. Slowly open the drain valve to allow oil to flow from the fry tank to the filter pan or discard container. The heating elements will turn off automatically.
7. When fry tank is empty use the tank brush to remove any additional debris.
8. Close the drain valve.

9. Fill tank with new shortening. Fill to a minimum of the MIN level but no high that halfway between MIN and MAX. Oil will expand as it is heated.

10. Press the start button only after step 9 is fully completed. The fryer will begin to heat the shortening.

DRAINING THE TANK

1. Open the door to the fryer. The power must remain ON for the fryer to filter correctly.

2. Insert the drain extension into the drain valve. Tighten only hand tight.

3. Direct the drain spout into the container that you want to drain the shortening into.

4. Open the drain valve slowly allowing the oil to drain into the container. When the container is full or the fryer tank is empty, close the drain valve. Repeat this step until the fryer is empty. Remove the drain extension and place it back in holder.

5. It is recommended to now boil out your fry tank. Follow the BOIL OUT PROCEDURE. Then clean-out as described under CLEANING.

BOIL OUT PROCEDURE

Weekly or when oil is replaced:

1. Drain the tank as described under FILTERING THE OIL.

2. Close the drain valve and fill tank with water. Use Vulcan's Boil-Out solid degreaser low foaming cleaner tablets part number 956812-1 which can be ordered from your local dealer. Follow the instructions on the side of the package.

NOTICE Do not use chlorine or sulfate/sulfide cleaners.

3. Solution level must be between the MIN and MAX levels on the fryer tank.

4. Press the power switch to the on position. Set the temperature knob to 200°F. Water boils at 212°F. Do not bring water temperature to an overly active boil.

5. Press the start button to begin heating the boil out solution.

6. Use the tank brush; clean the sides, bottom and heat exchanger tubes.

7. Place the drain extension in the drain valve and hand tighten only. Drain the cleaning solution from the tank into a container.

8. Close the drain valve and refill the tank with water. Add 1 cup (1/4 L) of vinegar to neutralize alkaline left by the cleaner. Solution level must be between the MIN and MAX level on the fryer tank. Press the start button to allow the solution to heat up. Allow solution to stand for a few minutes.

9. Drain the tank according to DRAINING THE TANK. Rinse thoroughly with clear, hot water. All traces of cleaner must be removed. Dry the tank thoroughly.

10. Close the drain valve and add shortening. Follow the FILLING TANK WITH SHORTENING procedure in this manual. The fryer is now ready for use. Press the start button to begin heating the shortening.

CLEANING

⚠ WARNING Hot oil and hot parts can cause burns. Use care when operating, cleaning, and servicing the fryer.

Daily

Clean your fryer regularly with the tank brush along with a damp cloth, and polish with a soft dry cloth. If regular cleaning is neglected, grease will be burned on and discolorations may form.

Fingerprints are sometimes a problem on highly polished surfaces of stainless steel. They can be minimized by applying a cleaner that will leave a thin oily or waxy film.

- Clean all exterior surfaces of your fryer at least once daily.
- Use a damp cloth with warm water and a mild soap or detergent.

NOTICE Do not use chlorine or sulfate/sulfide cleaners.

- Rinse thoroughly, and then polish with a soft dry cloth.
- Keep the fryer exterior clean and free of accumulated grease to prevent stubborn stains from forming. If regular cleaning is neglected, grease will be burned on and discolorations may form.
- Remove discolorations by washing with any detergent or soap and water.
- Use a self-soaping, non-metallic scouring pad for particularly stubborn discolorations.
- Always rub with the grain of the stainless steel.
- Do not use a metallic scoring pad or harsh cleaners.

KleenScreen *Plus*® Filtration System
Installation and Operational Manual for "ERF" Models

2ER50DF Shown with Accessory Casters

Electric KleenScreen *PLUS*® Models

Filtering Instructions for KleenScreen *PLUS*® Fryers

General

The KleenScreen *PLUS*® filtration system filters the oil as it is pumped back into its' respective tank(s). Only one tank can be drained and filtered at a time. Under no circumstances should both tanks be drained at the same time.

Assembly

- After unpacking, wash the filter pan, crumb basket and filter screen assembly. Make sure you remove the insert located inside the filter screen. Use dishwashing detergent and warm water, (parts are dishwasher safe). Rinse the filter pan, crumb basket and filter screen components completely and wipe all parts dry with a clean cloth.
- Pull out the filter drawer all the way leaving the filter pan opening exposed.
- Place the filter tank into the filter drawer making sure that the pins on the bottom of the filter pan line up with the holes in the filter drawer. Position the filter screen assembly into the suction tube clip in the filter pan positioning the filter screen assembly flat on the bottom of the filter pan. Place the primary crumb basket onto the left handle of the filter pan.
- Carefully line up the suction tube nozzle so that it mates with the oil receptacle block mounted on the frame of the fryer battery. Close the drawer. See Figures 1, 2 3 and 4.

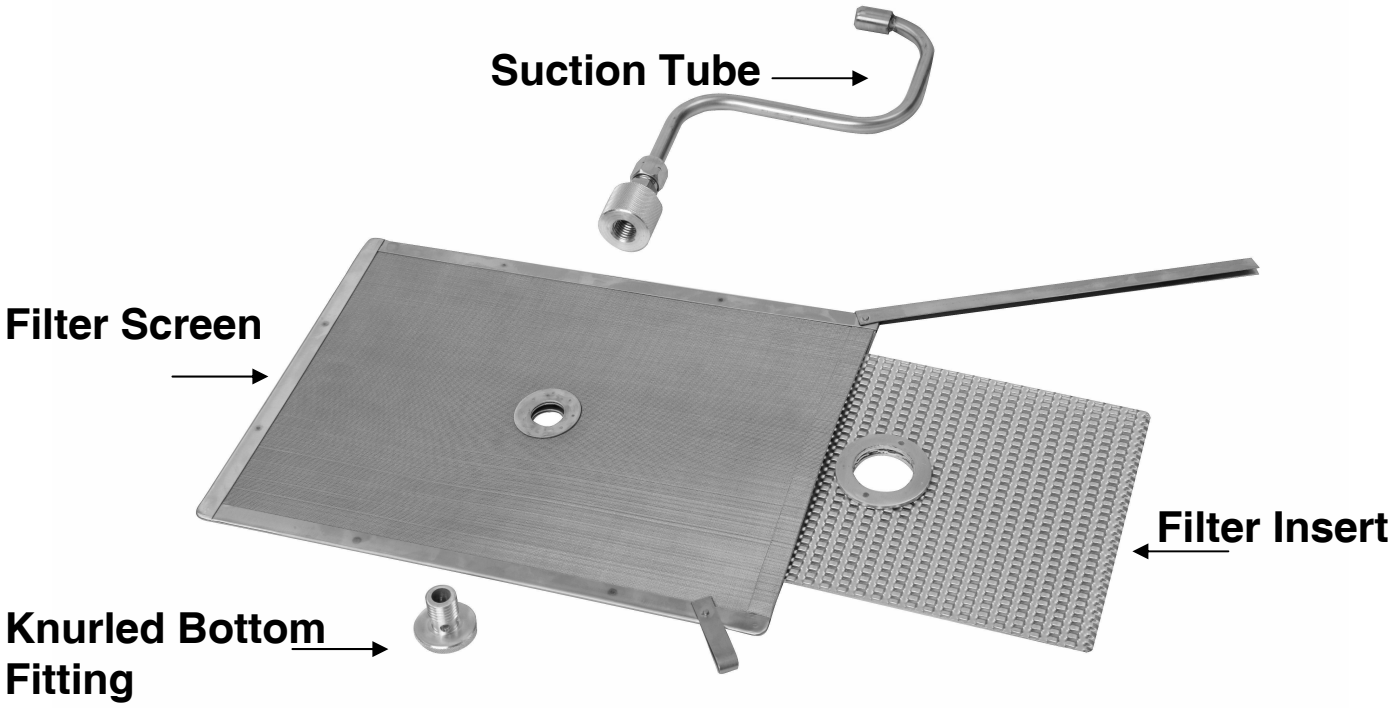
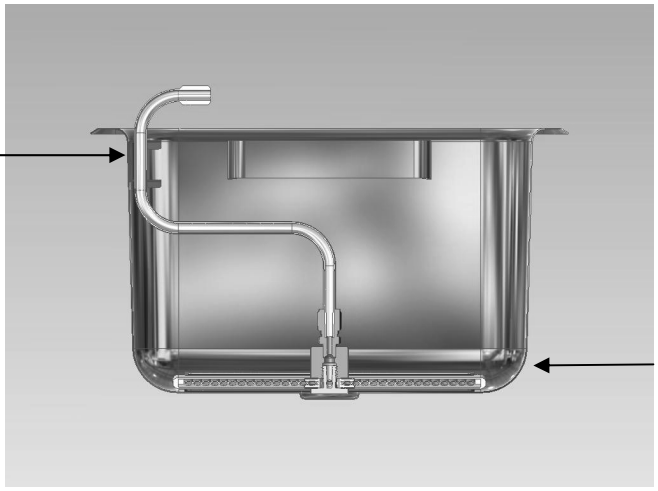


Fig. 1

Fully assembled filter screen assembly:

Fig. 2

Secure Tube with Suction Tube Clip



Filter Screen Lays Flat On Bottom of Filter Pan

Fig. 3

Micro-Filtration Fabric Envelope Assembly:

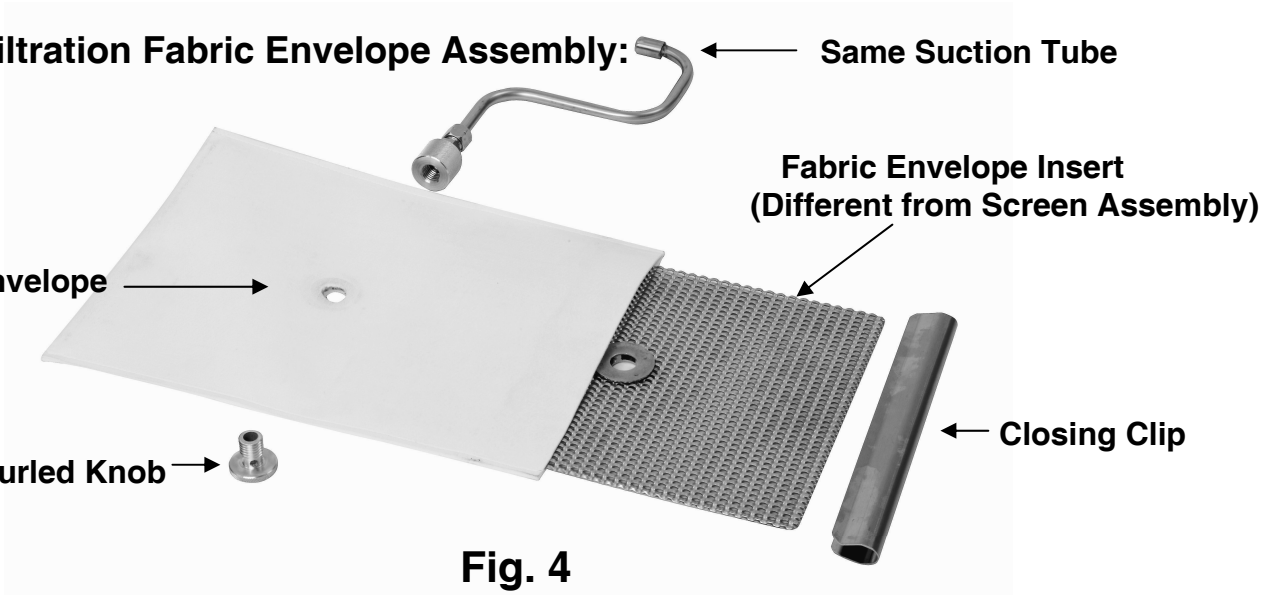


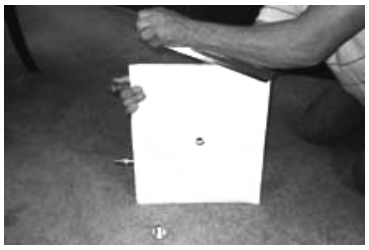
Fig. 4

INSTRUCTIONS TO REMOVE & REPLACE KLEENSCREEN *PLUS*® FILTER ENVELOPE

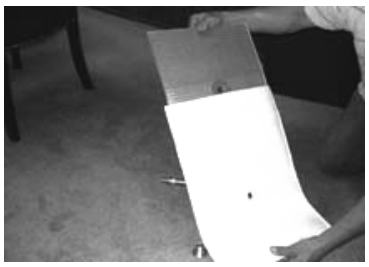
FOR ABSOLUTE FILTRATION & MAXIMUM FLOW RATE WE RECOMMEND YOU CHANGE YOUR FILTER ENVELOPES AT EVERY OIL CHANGE (10-14 DAYS DEPENDING ON OIL USAGE).

Step 1
Discard all oil from the filter vessel, (see pages 23 or 24). When the filter pan is empty, use a spatula and scrape off all debris left on the filter envelope and in the filter pan.

Step 2
Unscrew "S" Tube from filter by turning the Bottom Knurled fitting counter- clockwise.



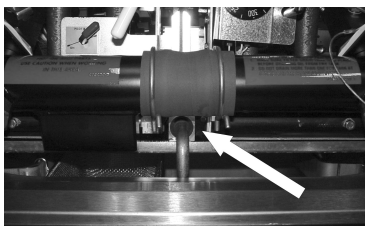
Step 3
Remove SST Closure Clip by lifting off one side.



Step 4
Remove SST Filter Screen Insert and wash insert with hot water and dry thoroughly. The Filter Screen Insert is dishwasher safe. Place the insert into a new KleenScreen *PLUS*® Filter envelope.

DO NOT WASH FABRIC ENVELOPE

Step 5
Place Filter Screen Insert into the fabric envelope making sure that the holes line up. Fold over the other end of the envelope and place SST Closure Clip on – hinge over and firmly press clip all the way down to secure and seal filter assembly. Making sure that the folded end is face down; screw "S" Tube Assembly onto the Filter Assembly. Tighten the Bottom Knurled fitting. When tightened, the "S" Tube assembly should be perpendicular to the long side of the filter assembly.



Step 6
Reposition the filter tube into the provided clip. Align filter tube so that the end of the "S" Tube engages the Oil Receptacle fitting each time the drawer is opened and closed.

Operation

⚠ WARNING **Hot oil and parts can cause burns. Use care when operating, cleaning and servicing the fryer.**

⚠ WARNING **Spilling hot frying compound can cause severe burns. Do not move fryer without draining all frying compound from the tank.**

NOTICE Never run water or boil out solution through filter and motor / pump. Doing so will void your fryer warranty.

FILTERING PROCEDURE

Oil Temperature should be 300-350° F. Use the provided crumb scoop to remove and suspend crumbs on the bottom of the tank before proceeding to Step 1.

1. Do not turn off the Fryer. The power must be on throughout the entire filtering process.

NOTICE Do **NOT** heat the fryer during the filtering procedure. Permanent damage to your fry tank may occur and warranty may be voided.

2. Vulcan recommends adding an oil treatment media to the oil prior to filtering.

3. Make sure that the filter drawer is closed completely and that the suction tube and receptacle block are in the correct position. Fig. 5

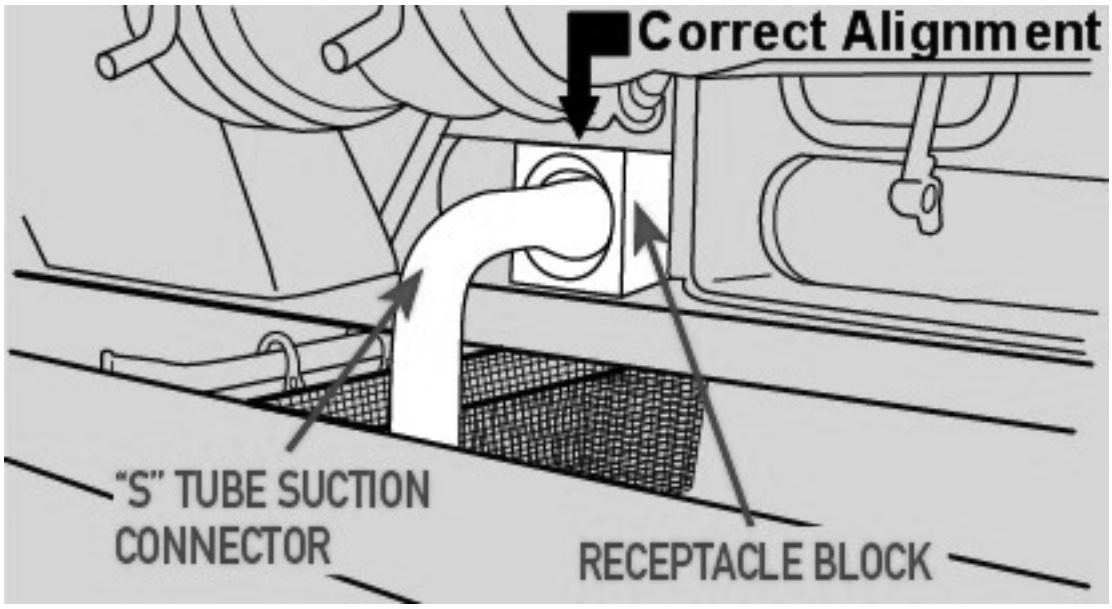


Fig. 5

VULCAN FRYERS

SOLID STATE KNOB CONTROLS GUIDE

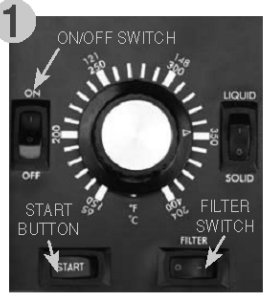
VULCAN
ONE POWERFUL PACKAGE™

FILTERING in 7 Easy Steps

STEPS 1-4

TIP: Use provided crumb scoop to remove and suspend crumbs on the bottom of tank before proceeding to Step 1.

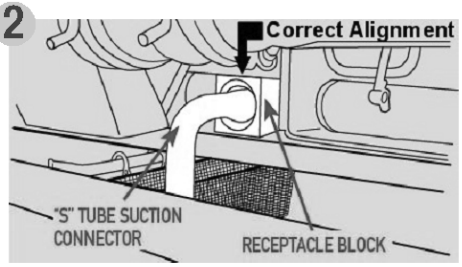
1



Make sure that the Power is on.
Do NOT turn off the power to the fryer

- Vulcan recommends adding an oil treatment media to the oil prior to filtering.
- Make sure that the filter drawer is closed completely and that the suction tube and receptacle block are in the correct position.

2



Open the fryer doors and ensure that the filter drawer is pushed back into place under the fryer with the "S" Tube Suction Connector and Receptacle Block engaged.

3

Open the drain valve slowly allowing the oil to drain down into the filter pan. The burners or heating elements will automatically turn off.

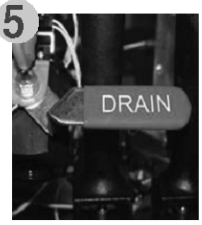
TIP: Use the provided tank brush to clean and remove food particles from the fry tank.

4

Press **FILTER** switch to engage the motor/pump. Allow the oil to cycle for a few minutes until the oil and fryer are clean.

STEPS 5-7

5



Close the drain valve slowly allowing the oil to fill the fry tank with clean oil. The burners or heating elements will not turn on at this point. Allow the oil to fill back into the fry tank from the filter pan. It is normal to see a few air bubbles during this process.

6

When the filter pan is empty push the **FILTER** switch to turn off the motor / pump. Oil level should be between the MIN and MAX lines.

7

Once the level of the oil has been checked and verified, press the **START** switch. The burners or heating elements will automatically turn back on and the fryer will resume heating.

DRAINING AND DISCARDING OIL FROM THE FRYER

A Follow filtering instructions steps 2 – 3, however **DO NOT** put oil treatment media into fryer. Drain the fryer oil into the filter pan.

B Attach the quick disconnect hose to the discard male quick disconnect fitting.

C Place other end of the discard hose into a container that is large enough to retain the discarded shortening.

D To start the discard operation, pull the yellow **"DISCARD"** handle lever rod towards you.

E Look for the decal on the front control panel that reads: **ATTENTION: USE THIS FILTER BUTTON WHEN DISCARD/FLUSHING FRY TANK.**

YOU MUST USE THIS FILTER BUTTON TO DISCARD THE OIL.
Press the FILTER button and hold for approximately 3 seconds to activate the motor/pump. Oil will begin to flow through the hose and into the container. **PLEASE NOTE** that the display will not change for this operation.

F To turn off the motor/pump, simply push the FILTER button again and then push the yellow **"DISCARD"** lever rod back in. Disconnect the discard hose. Be careful to let the hose drain before putting away. Close the drain valve and refill the fry tank with new oil.

NOTICE If discard vessel is not large enough to hold the entire shortening amount, stop the flow by pushing the FILTER button to turn the motor/pump off. Empty the container and resume discard operation by pushing the FILTER button and holding it for approximately 3 seconds.

NOTICE Open the filtering drawer approximately 1" to allow any oil in the return line to run back into the filter pan. This will take about 30 seconds to complete. Then open the drawer completely to clean filter components.
THESE INSTRUCTIONS ARE FOR FRYERS WITHOUT REAR OIL RECLAMATION CONNECTIONS.

⚠WARNING

- HOT FRYING COMPOUND AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING, OR SERVICING THE FRYER. USE CARE WHEN FILTERING. DO NOT LEAVE UNATTENDED.
- SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE THE FRYER WITHOUT FIRST DRAINING ALL FRYING COMPOUND FROM TANK.

NOTICE IF POWER IS MISTAKENLY TURNED OFF DURING THE FILTERING OPERATION, THE CORRECTIVE ACTION IS AS FOLLOWS:

1. CLOSE DRAIN VALVE
2. TURN POWER SWITCH ON
3. **IMMEDIATELY** OPEN DRAIN VALVE
4. CONTINUE FILTERING OPERATION PER STEPS 1-7

NOTICE WHEN USING SOLID SHORTENING, THE SHORTENING MUST BE LIQUIFIED BEFORE FILTERING.

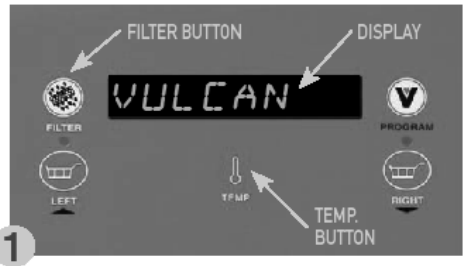
VULCAN FRYERS
SOLID STATE CONTROLS GUIDE

VULCAN
ONE POWERFUL PACKAGE

FILTERING in 7 Easy Steps (for revisions V3.00 or higher)

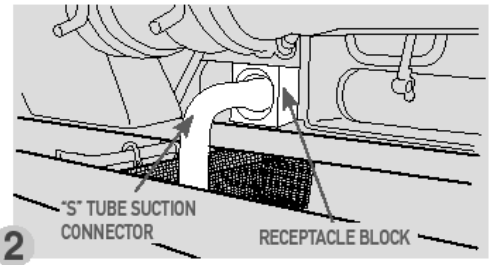
STEPS 1-3

TIP: Use provided crumb scoop to remove and suspend crumbs on the bottom of tank before proceeding to Step 1.



1

Make sure that the Power Switch is in the "ON" position.
Fryer must have power to operate the motor/pump.
Fryer Temperature should be between 300-350 Degrees Farenheit.
RECOMMENDED: ADD OIL TREATMENT MEDIA.



2

Open the fryer doors and ensure that the filter drawer is pushed back into place under the fryer with the "S" Tube Suction Connector and Receptacle Block engaged.

3

- Turn the drain valve to allow the oil to drain into the filter pan below. The burners will automatically turn off.
- While draining the tank, use the provided tank brush to move the residue at the bottom and sides of the tank down into drain tube.
- To turn on the filter motor/pump, push the FILTER button located on the control panel, holding it for approximately 3 seconds.
- Allow the oil to cycle through the filtering operation for about 3 minutes or until satisfied that the oil and fry tank are clean. DRAINING displays.

TIP: Use provided tank brush to clean and remove food particles on the fry tank.

STEPS 4-7

4

When filtering is finished, close the red drain valve by turning the red drain handle.
FILL VAT displays.

5

- Allow all of the oil to flow back into the fryer from the filter pan. It is normal to see air bubbles in the tank towards the end of filtering.
- When the filter pan is empty, push the FILTER button to turn off the motor/pump.
- Oil level should be between the Min/Max lines on the tank back.

VAT FULL displays. (Display is asking if the tank is full).

6

Once the oil level has been checked and verified, press the TEMP button. The burners will automatically turn back on and the fryer will resume heating. HIT TEMP displays.

7

After pressing the TEMP button the fryer resumes heating.
HEATING displays.

DRAINING AND DISCARDING OIL FROM THE FRYER

A Follow filtering instructions steps 2–4, however DO NOT put oil treatment media into fryer. Drain the fryer oil into the filter pan.

B Attach the quick disconnect hose to the discard male quick disconnect fitting, (hose not supplied with fryer - Accessory option).

C Place other end of the discard hose into a container that is large enough to retain the discarded shortening.

D To start the discard operation, pull the yellow "DISCARD" handle lever rod towards you.

E Look for the decal on the front control panel that reads: **ATTENTION: USE THIS FILTER BUTTON WHEN DISCARD/FLUSHING FRY TANK.**

YOU MUST USE THIS FILTER BUTTON TO DISCARD THE OIL.
Press the FILTER button and hold for approximately 3 seconds to activate the motor/pump. Oil will begin to flow through the hose and into the container. PLEASE NOTE that the display will not change for this operation.

F To turn off the motor/pump, simply push the FILTER button again and then push the yellow "DISCARD" lever rod back in. Disconnect the discard hose. Be careful to let the hose drain before putting away. Close the drain valve and refill the fry tank with new oil.

NOTE: If discard vessel is not large enough to hold the entire shortening amount, stop the flow by pushing the FILTER button to turn the motor/pump off. Empty the container and resume discard operation by pushing the FILTER button and holding it for approximately 3 seconds.
THESE INSTRUCTIONS ARE FOR FRYERS WITHOUT REAR OIL RECLAMATION CONNECTIONS.

WARNING:

- HOT FRYING COMPOUND AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING, OR SERVICING THE FRYER. USE CARE WHEN FILTERING. DO NOT LEAVE UNATTENDED.
- SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE THE FRYER WITHOUT FIRST DRAINING ALL FRYING COMPOUND FROM TANK.

IMPORTANT: IF POWER IS MISTAKENLY TURNED OFF DURING THE FILTERING OPERATION, THE CORRECTIVE ACTION IS AS FOLLOWS:

1. CLOSE DRAIN VALVE
2. TURN POWER SWITCH ON
3. **IMMEDIATELY** OPEN DRAIN VALVE
4. CONTINUE FILTERING OPERATION PER STEPS 1-7

NOTE: WHEN USING SOLID SHORTENING, THE SHORTENING MUST BE LIQUIFIED BEFORE FILTERING.

F-32914 (January 2007)

www.VulcanHart.com • Fryer Technical Support: 1-800-814-2028

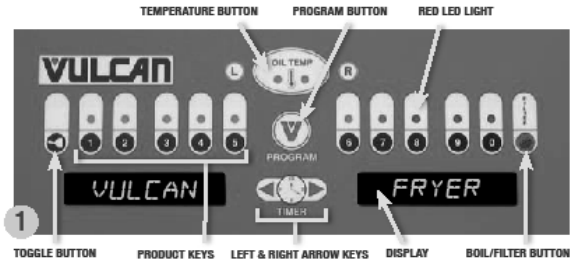
VULCAN FRYERS
COMPUTER CONTROLS GUIDE

VULCAN ONE POWERFUL PACKAGE™

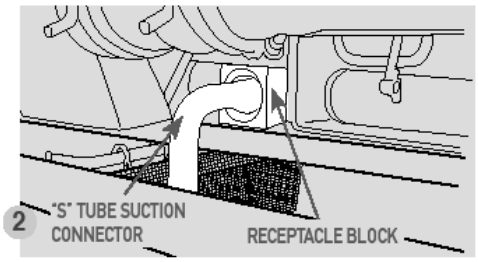
FILTERING in 6 Easy Steps (for revisions V3.00 or higher)

STEPS 1-3

TIP: Use provided crumb scoop to remove and suspend crumbs on the bottom of tank before proceeding to Step 1.



Make sure that the Power Switch is in the "ON" position. Fryer must have power to operate the motor/pump. Fryer Temperature should be between 300-350 Degrees Fahrenheit. RECOMMENDED: ADD OIL TREATMENT MEDIA.



Open the fryer doors and ensure that the filter drawer is pushed back into place under the fryer with the "S" Tube Suction Connector and Receptacle Block engaged.

- Turn the drain valve to allow the oil to drain into the filter pan below. The burners will automatically turn off.
- While draining the tank, use the provided crumb scoop to move the residue at the bottom and sides of the tank down into drain tube.
- To turn on the filter motor/pump, push the FILTER button located on the control panel, holding it for approximately 3 seconds.
- Allow the oil to cycle through the filtering operation for about 3 minutes or until satisfied that the oil and fry tank are clean. DRAINING OIL **displays.**

TIPS: Use provided tank brush to clean and remove food particles on the fry tank. Use provided clean-out rod to clear drain if clogging occurs.

STEPS 4-6

- When filtering is finished, close the red drain valve by turning the red drain handle. FILL VAT **displays.**
- Allow all of the oil to flow back into the fryer from the filter pan. It is normal to see air bubbles in the tank toward the end of filtering.

- When the filter pan is empty, push the FILTER button to turn off the motor/pump.
- Oil level should be between the Min/Max lines on the tank back. VAT FULL HIT TEMP **displays. (Display is asking if the tank is full.)**

Once the oil level has been checked and verified, press the TEMP button. The burners will automatically turn back on and the fryer will resume heating. HEATING **displays** if oil temperature is below set temperature.

DRAINING AND DISCARDING OIL FROM THE FRYER

A Follow filtering instructions steps 2–4, however **DO NOT** put oil treatment media into fryer. Drain the fryer oil into the filter pan.

B Attach the quick disconnect hose to the discard male quick disconnect fitting, (hose not supplied with fryer - accessory option).

C Place other end of the discard hose into a container that is large enough to retain the discarded shortening.

D To start the discard operation, pull the yellow **"DISCARD"** handle lever rod toward you.

E Look for the decal on the front control panel that reads: **ATTENTION: USE THIS FILTER BUTTON WHEN DISCARD/FLUSHING FRY TANK.**

YOU MUST USE THIS FILTER BUTTON TO DISCARD THE OIL. Press the FILTER button and hold for approximately 3 seconds to activate the motor/pump. Oil will begin to flow through the hose and into the container. **PLEASE NOTE** that the display will not change for this operation.

F To turn off the motor/pump, simply push the FILTER button again and then push the yellow **"DISCARD"** lever rod back in. Disconnect the discard hose. Be careful to let the hose drain before putting away. Close the drain valve and refill the fry tank with new oil.
WARNING: Hose connection will be HOT. Use protective heat resistant gloves when handling.

NOTE: If discard vessel is not large enough to hold the entire shortening amount, stop the flow by pushing the FILTER button to turn the motor/pump off. Empty the container and resume discard operation by pushing the FILTER button and holding it for approximately 3 seconds. THESE INSTRUCTIONS ARE FOR FRYERS WITHOUT REAR OIL RECLAMATION CONNECTIONS.

WARNING:

HOT FRYING COMPOUND AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING, OR SERVICING THE FRYER. USE CARE WHEN FILTERING. DO NOT LEAVE UNATTENDED.

SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE THE FRYER WITHOUT FIRST DRAINING ALL FRYING COMPOUND FROM TANK.

IMPORTANT:
IF POWER IS MISTAKENLY TURNED OFF DURING THE FILTERING OPERATION, THE CORRECTIVE ACTION IS AS FOLLOWS:
1. CLOSE DRAIN VALVE
2. TURN POWER SWITCH ON
3. **IMMEDIATELY** OPEN DRAIN VALVE
4. CONTINUE FILTERING OPERATION PER STEPS 1-7

NOTE: WHEN USING SOLID SHORTENING, THE SHORTENING MUST BE LIQUEFIED BEFORE FILTERING.

F-32922 (July 2007)

www.VulcanHart.com · Fryer Technical Support: 1-800-814-2028

FILTERING TIP:

Open the filtering drawer approximately 1" to allow any oil in the return line to run back into the filter pan. This will take about 30 seconds to complete. Then open the drawer completely to clean filter components.

REMOVING EXCESS DEBRIS FROM THE SCREEN FILTER:

1. Pull the filter drawer out and remove the crumb basket and empty any debris into the trash.
2. Remove the filter screen assembly. Scrape debris from the filter screen. Then remove the insert by unlatching the latch. Clean all parts thoroughly.
3. Scrape debris from the bottom of the filter pan and discard in the trash.
4. Reassemble all filter components after being dried thoroughly.

FLUSH AND DISCARD:

1. Follow filtering instructions 1-3, however do not put oil treatment media into the fryer. Drain the fryer oil into the filter pan.
2. Attach the quick disconnect hose to the discard male quick disconnect fitting, (hose not supplied with fryer – Accessory Option).
3. Place other end of the discard hose into a container that is large enough to retain the discarded shortening.
4. With the power switch still ON; pull the Yellow Discard Handle Lever Rod towards you. Press the FILTER switch and the Motor/Pump will begin to operate. NOTE: Oil will come out immediately out of the nozzle end of the hose.
5. Once the oil has been discarded completely and the filter pan is empty, push the Discard Lever back in. Press the FILTER switch to the OFF position to stop motor/pump.
6. Disconnect the discard hose. The hose connection will be hot due to the temperature of the oil that was discarded. Be careful to let the hose drain before putting away. Close the drain valve and fill the fry tank with new oil.

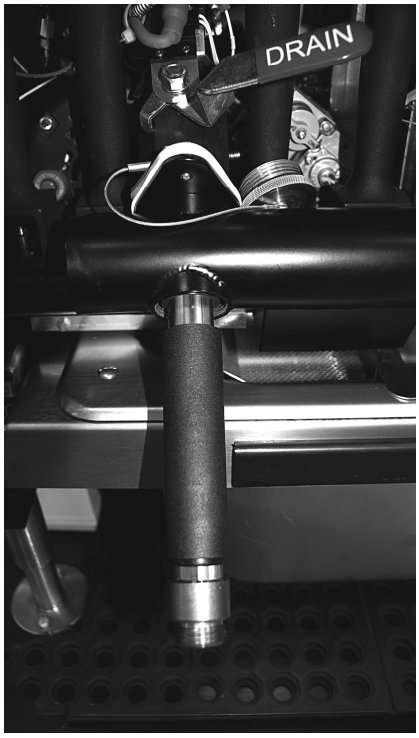
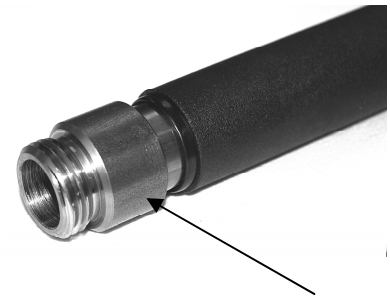


Fig. 6

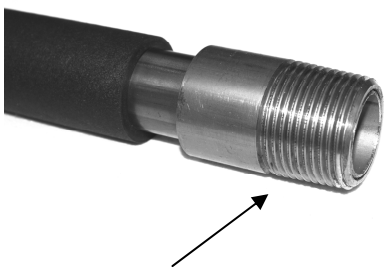
BOIL OUT PROCEDURE:

Use the Boil Out By-Pass™ drain extension allowing the boil out solution to exit the fry tank without using the filtering system. Do not allow water to run through the motor / pump. Drain the boil out solution into a bucket or place a hose on the end of the drain extension allowing the other end to flow into a floor drain. In Fig. 6 the arrow is pointing to the drain extension. It is threaded into the top coupling of the oil drain tube. Drain extension needs to be only hand tightened.

Boil Out By-Pass™ Extension Tube



Standard Hose End



Drain Tube End

THERMAL OVERLOAD PROTECTION BUTTON:

The motor/pump supplied with the filtering system has a thermal overload protection circuit that senses when excess heat occurs due to filtering for long periods of time or under heavy load prior to discarding debris buildup. If the thermal overload protection is tripped, wait 5 minutes and then reset the motor by pushing in the red button. The arrow in Figure 7 shows the location of the reset button; located on the front off the motor / pump facing towards you.

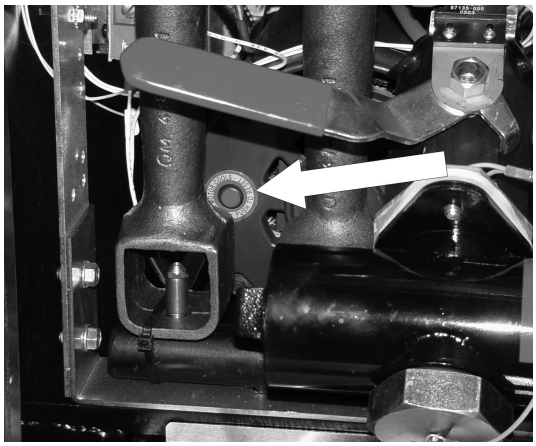


Fig. 7

MAINTENANCE

⚠ WARNING Hot oil and hot parts can cause burns. Use care when operating, cleaning, and servicing the fryer.

⚠ WARNING Spilling hot fryer compound can cause severe burns. Do not move fryer without draining all frying compound from the tank.

Service in the US and Canada

Contact your local Vulcan-Hart Service office or address on the front of this manual.

In Australia

Contact Hobart Food Equipment PTY. LTD., 16 Hilly Street Morlake, N.S.W. 2137 Australia; P.O. Box 100, Concord N.S.W. 2137; Tel: (02) 9736 1200; Fax: (02) 9736 1555. www.hobartfood.com.au

Troubleshooting Chart:

Problem:	Probable Cause:
No Heat:	Power switch not turned on. Wire connections loose (call service) Wires connections need cleaning High Limit (call service)
Insufficient or too much heat:	Temperature not set to desired temperature. High limit tripped (call service) Temperature probe (call service)
Tank will not drain:	Shortening too cold. Drain pipe clogged with debris.
Motor / pump will not pump oil:	Suction tube not seated correctly in receptacle block. Filter screen is clogged and needs cleaning. Shortening is too thick / cold. Heat oil up to min. 300º F. Discard valve lever not fully engaged either for filtering or discarding.